Before the Federal Communications Commission OCT 30 1990 Washington, D.C. 20554 CC MAIL ROOM

| In the Matter of |) |
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| AMENDMENT OF PART 95 OF THE COMMISSION'S RULES TO PROVIDE REGULATORY FLEXIBILITY IN THE |))) WT Docket No. 98-169 |
| 218-219 MHZ SERVICE |) RM-8951 |
| and |) |
| AMENDMENT OF PART 95 OF THE | ,) |
| COMMISSION'S RULES TO ALLOW |) |
| INTERACTIVE VIDEO AND DATA |) WT Docket No. 95-47 |
| SERVICE LICENSEES TO PROVIDE |) RM-8476 |
| MOBILE SERVICES |) |
| |) |

TO: The Full Commission

COMMENTS OF BOSTON SPECTRUM ASSOCIATES, L.L.C. AND **HOUSTON SPECTRUM ASSOCIATES, L.L.C.**

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Summary

The commentators in this proceeding are limited liability companies, who purchased IVDS licenses on the basis of representations made by EON Corporation, to which the Commission became an unwitting accomplice, to the effect that an IVDS system and technology had already been developed and was ready to go. These representations turned out to be false. Nobody has developed a successful IVDS system for operation in the 218-219 Mhz band.

In these Comments, we ask the Commission to essentially remove all artificial barriers to the unlimited use of the frequencies in the 218-219 Mhz band, so that the marketplace can find the most appropriate and highest use for the licenses which the commentators have purchased.

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Boston Spectrum Associates, L.L.C., and Houston Spectrum Associates, L.L.C. (hereinafter collectively referred to as the "Companies"), by their attorney, hereby respectfully submit the following Comments on the Notice of Proposed Rulemaking in this proceeding:

I. The Companies and Their Interest in this Proceeding:

1. The Companies are each limited liability companies, organized under the State of Georgia. Boston Spectrum Associates, L.L.C., holds an IVDS authorization for a system at Boston, Massachusetts, while Houston Spectrum Associates, L.L.C., holds an IVDS authorization for a

system in Houston, Texas.

- 2. To fully understand the interest of the Companies in this proceeding, it is necessary to understand how IVDS came to be, what it was supposed to do, and where the service presently stands. Basically, the concept of an IVDS system was originated with a company called TV Answer, Inc., which later became EON Corporation. To avoid needless repetition, we will use the term "EON" to mean "EON Corporation or TV Answer, Inc., its predecessor in interest".
- 3. In the late 1980's, EON promulgated the concept of using a packet radio system to enable people to "talk back to their TV sets". EON requested the Commission to enact rules and standards for the IVDS system. As a result of EON's efforts, the Commission ultimately adopted a Report and Order (the "Allocation Report") amending Part 95 of the Commission's Rules to provide for an interactive video and data service. The basic technical scheme, contemplated by the rules, envisages that the system will function much like a cellular telephone system, except that data will be transmitted instead of voice. There will be one or more cells, referred to as "Cell Transmitter Stations" ("CTS's"), and one or more "Response Transmitter Units ("RTU's"). The RTU's might better be referred to as "User Stations", since they will be used by consumers to access the cells, either through transmitters situated at their homes or, under subsequent amendments to the rules, from mobile units. The CTS units might best be referred to simply as "cells" or, perhaps, as "system stations".
 - 4. The Allocation Report, adopted in 1992, contemplated that lotteries would be held

¹Amendment of Parts 0, 1, 2 and 95 of the Commission's Rules to Provide Interactive Video and Data Services, GEN Docket No. 91-2, *Report and Order*, 7 FCC Rcd 1630, 1630-33 (1992) (1992 Allocation Report and Order), on recon., Memorandum Opinion and Order, 7 FCC Rcd 4923 (1992), *further recon.*, *Second Memorandum Opinion and Order*, 8 FCC Rcd 2787 (1993).

to award IVDS licenses in the major markets in the United States. At the time, EON was the only company which had type-acceptance to sell IVDS equipment. Therefore, once the lotteries were held and the licenses were awarded, EON would have at least for a time a monopoly position in the IVDS equipment market.

5. Following the release of the Allocation Report, EON produced a videotape promoting IVDS to the winners of the forthcoming IVDS lotteries. A transcript of that tape is attached and marked Exhibit A. In the tape, the announcer, Paul Anthony, made a number of statements concerning the interactive video and data service which were not true. He said for example that:

"Working from our network headquarters campus outside of Washington, D.C., we developed, tested, and perfected our patented home unit and remote control. We formed a strategic alliance with Hewlett Packard to manufacture the set top unit and remote and distribute it through consumer electronics stores. We conceived our milliwatt deployment strategy and perfected our patented local cell site equipment. We completed the installation of our nationwide network control center and satellite hub site. We installed a state of the art data processing facility for fast, accurate, back-end processing. We created our interactive services technology to support our unique interactive services center.

We continue to forge strategic alliances with industry leaders like Hewlett Packard and Hughes Network Systems and we continue to add to our growing list of revenue-generating national service providers, which include Domino's Pizza, J.C. Penney, M.T.M.'s QB1, Meridian Bank, and many more. The result - America's first wireless interactive TV data network will be ready for launch.

Hewlett Packard is preparing the home unit for distribution to consumers. The cell site deployment plans are being developed. TV Answer's satellite network and control centers are preparing to receive and process your transactions. And the service providers are signed up and will be ready Day One."

He went on to say:

"Soon, you may win an IVDS license. TV Answer can provide everything you need to build your license into a successful IVDS business...".

He also said that:

"we have the four (4) key elements for IVDS success: Home unit penetration; national and local transaction revenue; strategic cell site deployment; training and support for local affiliates."

- 6. Now, the truth was that EON did not have any arrangement with Hewlett Packard to manufacture IVDS equipment. The truth was that EON had not even developed a workable system for IVDS. It had no technology available and it had no equipment available. It had no "strategic alliances" with Hewlett Packard or Hughes Network Systems, nor for that matter, did it have any arrangements with Domino's Pizza, J.C. Penney, or any of the other companies whose names were dropped by Mr. Anthony.
- 7. Some time in early 1993, the Commission did, in fact, hold IVDS lotteries and awarded licenses for the largest markets in the United States. Thereafter, it scheduled an auction to sell licenses for the second tier markets in the United States. That auction took place on July 27, 1994, at the Omni-Shoreham Hotel in Washington, D.C. Shortly before the auction took place, a seminar was held at the FCC and an FCC official, Joy Alford, made an oral presentation to the bidders. A transcript of her remarks, entitled "IVDS: Description of the Product" is attached and marked Exhibit B. In her speech, Ms. Alford began by saying that "This [IVDS technology] has the potential to change the way we shop, the way we learn, the way we bank, the way we receive healthcare, ultimately, the way we live." She went on to say that, "IVDS was designed to serve as one of the many access ramps to the nation's information superhighway. It will permit short distance

two-way transmissions of electronic data", and "As I indicated during my opening remarks, the potential opportunities in IVDS are numerous. We expect service offerings to include, for instance, home shopping. The service may also be used for polling. There are also commercial applications such as home banking and the downloading of data. Service offerings are expected to include opportunities for television-viewer interaction, in real time, to pay-per-view and educational programming. This service is excellent for in-classroom training for homebound students. Imagine teachers instructing 20 classrooms simultaneously, at an equal number of learning institutions. In the area of medicine, for example, a physician may engage in a 'dialogue of sorts' while demonstrating a new medical procedure to fellow physicians or medical students located across the country. Keep in mind that an IVDS system may incorporate numerous electronic media to provide the desired service to the subscribers. IVDS systems can be coordinated with television broadcast stations, cable television stations and wireless cable as well as direct broadcast satellite (DBS)."

8. We have no doubt that Joy Alford was speaking in entirely good faith and that her remarks were intended to be completely truthful and accurate. Nonetheless, her enthusiasm and the enthusiasm of other FCC speakers certainly tended to reinforce the belief that was not correct, that interactive video data service technology had already been developed and that if equipment was not already available it would be available very shortly. EON's promotional materials and the materials put out by the FCC, itself, resulted in an atmosphere of "hype" in which IVDS came to be seen as a unique business opportunity. Not surprisingly, promoters stepped in to profit from this anticipated bonanza. One of these promoters was a man by the name of Bill Brooker. He organized a company called Trend Star, Ltd. Trend Star, in turn, organized Boston Spectrum Associates, L.L.C., and Houston Spectrum Associates, L.L.C. Equity interests in these two companies were sold to

investors, with Trend Star retaining 35%, or approximately \$6300, out of each \$18,000 investment package as "promotional fees".

9. Excerpts from the promotional brochure, used by Trend Star, are attached and market Exhibit C. The brochure tempts investors with such statements as "Like Cellular Licenses in the 80's, FCC Licenses for Interactive TV Can Be Worth Millions". To emphasize the false notion that IVDS was already a working and developed technology, colorful diagrams were presented, purporting to show that the system can be used for in-home banking, to participate in TV game shows, to purchase products, etc. Another diagram purports to show how IVDS works. It shows a satellite, connected to a "network control" building and another building marked "interactive service", although the IVDS rules, at the time, did not actually provide for satellite to form a part of an IVDS system. Interestingly, the diagram states that, "The viewer's responses or transactions are instantly signaled back to the providers over the same interactive network". As we will see, however, the IVDS rules contained duty cycle restrictions which, in many cases, would make it impossible to send any data "instantly".

10. The Companies engaged an IVDS consultant, Joe Balch, to manage their IVDS operations. In early 1995, Mr. Balch advised the Companies that two of the winners of the original IVDS lotteries were interested in selling their licenses. As a result of this advice, Boston Spectrum Associates purchased the Boston license for \$750,000. Houston Spectrum Associates purchased the Houston license for \$1.4 million, and later spent an additional \$325,000 for the construction of a demonstration system.² As a result of the foregoing, the Companies have an investment in IVDS in

²We say "demonstration system" because, while the system is capable of transmitting and receiving radio signals, no practical application has yet been developed for the system.

the sum of at least \$2,475,000. That investment was made on the assumption promoted by EON and by the FCC that IVDS was a workable technology, developed and ready to go.

- 11. Unfortunately, the assumptions which led to the Companies' investments have proven to be incorrect. Nobody had yet developed a working system to talk back to a TV set. Furthermore, even if such a system had been developed, it would have been obsolete. The entire concept has been supplanted by WEB TV, a system now owned by Microsoft.
- 12. The Companies, therefore, find themselves in a very uncomfortable position. Millions of dollars have been invested in spectrum which does not appear fit for its original, intended purpose. The Companies, and the innocent investors who poured millions of dollars into the Companies, urgently need help from the Commission to at least partially salvage their investments. Something must be done to make the 218-219 Mhz service a useful and viable service. The public, itself, will be ill-served if these frequencies are allowed to remain fallow and unused in the years to come.

II. Relief Requested:

13. Fortunately, the advance of technology has made it possible to use these frequencies for a variety of useful purposes. When IVDS licenses were sold at the 1994 auction, Ms. Alford suggested that:

"This service is excellent for in-classroom training for homebound students. Imagine teachers instructing 20 classrooms simultaneously, at an equal number of learning institutions. In the area of medicine, for example, a physician may engage in a 'dialogue of sorts' while demonstrating a new medical procedure to fellow physicians or medical students located across the country."

Ms. Alford's remarks were well intentioned, but inaccurate. At the time she made her presentation,

there was no way to transmit video over a packet radio system. That has now changed. INTEL has developed streaming video technologies which are used daily to transmit compressed video over the Internet. Unfortunately, the Internet often becomes congested, leading to interruptions in the video streaming. The Companies can envisage, however, an interlinked system of IVDS providers that would make it possible to transmit, for example, a real time video of a delicate heart operation from a hospital at City A to a specialist's office in City B, with the specialist having the capability of making suggestions to the operating physicians. Similarly, streaming video technology can be used to transmit lectures from a classroom to students at home and the students would have the capability of asking questions of the lecturer. Additionally, the same technology could be used to transmit lessons in such subjects as English for non-English speakers and U.S. History for those who are planning to apply for U.S. citizenship. The possibilities are almost endless.

- 14. The same packet system could be used for high-speed access to the Internet and would be highly competitive with current telephone and cable technologies. This system could also be used for unrestricted exchanges of data of all sorts, including digitally encoded voice transmissions. Freed of all government restrictions, the marketplace will determine an appropriate use for the 218-219 Mhz band.
- 15. Unfortunately, there are a number of restrictions in the current rules which threaten to impair the working of the free market. One of the worst of these restrictions is the 5 sec./hr. duty cycle limit on IVDS stations situated in proximity to TV stations on Channel 13. This restriction, which directly impacts the Companies' Houston system, really makes no sense. Currently, the Commission has assigned the frequency band 82-88 Mhz to Channel 6. The FM band begins at 88.1 Mhz. Thus, there is no "guard band" between Channel 6 and the FM band.

Nevertheless, the FCC has allocated FM stations in the lower portion of the FM band (the portion reserved for the educational service), even in areas where those stations are in close proximity to a Channel 6 TV station. Methods have been developed to prevent interference to the TV service, including the use of vertical polarization by FM stations in areas where such interference might occur. These rules are set forth in 47 C.F.R. Section 73.525. They have proven effective in allowing FM stations in the lower 4 Mhz of the FM band to provide needed public service without interference to the reception of Channel 6.

16. The frequencies 218-219 Mhz are not adjacent to any TV channel. There is a 2 Mhz guard band between Channel 13 (210-216 Mhz) and the lower edge of the 218-219 Mhz band. Furthermore, the Commission has already allocated frequencies to a low power radio service, LRPS, that operates in the 216-217 Mhz band, directly adjacent to Channel 13. Amendments to Part 90 of the Commission's Rules Concerning Private Land Mobile Radio Services, 12 FCC Rcd 13468 (1997). These 100 mw stations are not restricted to a 5 sec./hr. duty cycle or to any particular duty cycle. 47 C.F.R. Sections 95.1001, et. seq. Clearly, the Commission would not have made such allocations unless they were satisfied that the stations in the LRPS could successfully co-exist with Channel 13 without causing interference.³

17. Imposition of the duty cycle requirements in the 218-219 Mhz band is a serious hindrance to the full development of that band, because it prevents IVDS operators from establishing a nationwide footprint. So long as the duty cycle requirement remains on the books, a large number of IVDS systems, including the Companies' Houston system, will be essentially worthless for high-

³The Commission has also authorized Maritime Coast and ship stations to operate in this band, albeit with appropriate provisions to insure against interference to Channel 13. 47 C.F.R. Section 80.209(6). See also, 47 C.F.R. Section 80.215(h).

speed Internet service, streaming video, and other modern technologies. Therefore, if the band is to be fully developed, there is an urgent need to eliminate the duty cycle restriction.

- 18. There is also a need to eliminate the restriction which prohibits a single person or company from owning both Block A and Block B in any particular market. Each of these blocks consists of only 500 kHz of spectrum. However, a high-speed packet network cannot be developed in 500 kHz of spectrum. To achieve the speeds necessary to be competitive for, say, Internet access, a full 1000 kHz of spectrum is required.
- 19. Evidently, the Commission originally divided the band into two blocks and provided for those blocks to be owned by different companies, because it apprehended that otherwise a single company would have a monopoly in the IVDS business in each market. That apprehension is no longer justified. Under any conceivable set of circumstances, users of the 218-219 Mhz band will be competing vigorously with a whole host of other services. To the extent that the band is used for high-speed Internet access, users will be competing with a telephone company and with cable. To the extent that the band is used for exchange of audio and video data, users will still be competing with the telephone companies and cable. Thus, it no longer makes any sense to restrict the ownership of these frequencies to only one block in a market. Freed of these restrictions, IVDS licensees will make their own arrangements to either buy each other out or to share the spectrum to allow the full development of the band in each market.
- 20. There is also a need to increase mobile operating power. The current limit of 100 mw on mobile RTU's would require too many cells to cover a metropolitan area, making the build out cost for a system prohibitive. This restriction, set forth in 47 C.F.R. Section 95.855, should be revised to provide for an ERP of at least 4W. See the comments set forth, supra, with respect to duty

cycle. Experience with Channel 6, where there is no guard band, makes it clear that a 4W limit should create no problems of interference, even in Channel 13 areas.

- 21. The Commission should also eliminate the operating power and height restrictions for stations in proximity to Channel 13, set forth in 47 C.F.R. Section 95.855(b). These restrictions apply to stations at fixed locations. Because of the 2 Mhz guard band between Channel 13 and the 218-219 Mhz band, it is extremely unlikely that any interference will occur. But, if it does, the 218-219 Mhz operator has an absolute obligation to eliminate the interference. 47 C.F.R. Section 95.861. Thus, a mechanism already exists for the full satisfaction of any interference complaints which may be received.
- 22. The Commission also needs to make it clear that there are no restrictions on interconnection between the 218-219 Mhz services and the services offered by wireline carriers and satellite providers. If we are to achieve the goal of exchanging streaming video and audio between different cities served by different 218-219 Mhz providers, there must be arrangements for the providers in these different cities to interconnect. There is no reason why such interconnections should be prohibited and there is every reason to permit such interconnections, so as to achieve the objective of a nationwide footprint for the 218-219 Mhz services.
- 23. Finally, it is important that the license term in the 218-219 Mhz service be extended to ten years, and that there be no artificial "build out" requirements which would require the construction of any system before the technology is ready. Otherwise, in future auctions, taxpayers will not achieve a fair return from the sale of 218-219 Mhz spectrum.

III. Conclusion:

24. A full Mhz of valuable spectrum has been allocated in the frequency range 218-

219 Mhz for a system which, in retrospect, no longer seems viable. The public interest demands that this valuable block of spectrum be put to good use. Due to modern technology, there are many uses for this spectrum. However, the full development of the spectrum urgently requires that the Commission lift the restrictions which presently exist, and open up the 218-219 Mhz band to a wide variety of different possible uses, so that free market mechanisms can work and allow this spectrum to be developed for its highest possible use.

Respectfully submitted,

October 29, 1998

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Their Attorney

EXHIBIT A

TRANSCRIPT OF VIDEOTAPE

of

"TV ANSWER" PROMOTION

PATRICIA E. CRUM Stenographic Reporter 311 Cheyenne Drive Frederick, Maryland 21701 (301)694-0717

(PRINTED AT BOTTOM OF TV SCREEN): TV ANSWER, INC. Copyright 1992.

WALE VOICE: You're invited to share what was once only a vision and today is a reality so powerful it will transform your television into a two-way interactive window on the world - TV Answer. For educators, TV producers, advertisers and information services, it's the promise of television fulfilled. For you, the local affiliate, it's an opportunity to prosper from the dynamic electronic marketplace of the Nineties - TV Answer.

Thanks to the evolution of technology, consumers now have more choices and more information to make them, but television has remained a one-way medium and television viewers, passive observers, until now. Now, there's TV Answer, a technological breakthrough that enables local affiliates to transmit revenue-generating marketing, education and entertainment transactions through a two-way network, creating a dynamic new industry and opportunity.

Through a two-way wireless communication pathway, TV Answer sends interactive information by satellite to a system of interconnected cell sites in your local community. From there, it's relayed to

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the set top receivers in viewers' homes and overlaid onto programing delivered by cable, satellite, or over-the-air broadcasts. A few clicks on the simple remote and each viewer transaction response is sent back along the same path from your local cell site to the satellite and on to the TV Answer center. From there, it is sent directly to programmers, advertisers or data services.

PAUL ANTHONY: Hello! My name is Paul
Anthony for TV Answer, America's leader in two-way
interactive television. Congratulations on your
participation in the FCC's lottery for Interactive Video and
Data Services.

You know, for the past six (6) years, TV Answer has invested more than Seventy Million (\$70,000,000.00) Dollars building and perfecting this exciting two-way interactive technology.

Working from our network headquarters campus outside of Washington, D.C., we developed, tested, and perfected our patented home unit and remote control. We formed a strategic alliance with Hewlett Packard to manufacture the set top unit and remote and distribute it through consumer electronics stores. We conceived our milliwatt deployment strategy and perfected our patented local cell site equipment. We completed the installation of our nationwide network control

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center and satellite hub site. We installed a state of the art data processing facility for fast, accurate, back-end processing. We created our interactive services technology to support our unique interactive services center.

We continue to forge strategic alliances with industry leaders like Hewlett Packard and Hughes Network Systems and we continue to add to our growing list of revenue-generating national service providers, which include Domino's Pizza, J. C. Penney, M.T.M.'s QB1, Meridian Bank, and many more. The result - America's first wireless interactive TV data network will be ready for launch.

Hewlett Packard is preparing the home unit for distribution to consumers. The cell site deployment plans are being developed. TV Answer's satellite network and control centers are preparing to receive and process your transactions. And the service providers are signed up and will be ready Day One.

PAUL ANTHONY: Now, TV Answer is ready for the final and most important part of our network - you, the local affiliate. Regardless of your business goals for IVDS, we believe the TV Answer local affiliate program is the best and fastest way to build maximum value into your license.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY): If your goal is to hold your license for the short term, our

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| system can maximize the value of your license. If your goal |
|--|
| is to hold your license for the long term and build out your |
| IVDS business, then our affiliate program can maximize the |
| value of your business. And if you have a lifetime |
| commitment to build and shape this exciting new industry, TV |
| Answer is your ideal partner. |

PAUL ANTHONY: Our successes are closely tied, so no matter how long you choose to participate, our joint enterprise can maximize your business goals.

TV Answer developed the IVDS technology and the business strategy. Our pioneering efforts have revealed four (4) key elements for success:...

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):

Home unit penetration; national and local transaction

revenue; strategic cell site deployment; training and support

for local affiliates.

WHITE FEMALE SHOWN TALKING ON TELEPHONE:

Tom, how are you doing?

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):
For quality and dependability, we chose Hewlett Packard, a
Fourteen Billion (\$14,000,000,000.00) Dollar industry leader
in electronics manufacturing to build, market, and distribute
the TV Answer home unit.

PAUL ANTHONY: Your local affiliate business will be launched with a strategically designed and

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coordinated advertising, marketing, and public relations program that saturates your market and generates product demand.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):
Consumers will buy the home unit in neighborhood consumer
electronics stores. It's installed in minutes and the
consumer's television is instantly transformed into an
interactive window on the world.

PAUL ANTHONY: For you, the affiliate, and for TV Answer, transactions are our source of revenue. The more interactive opportunities, the more transactions; the more transactions, the more revenue.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):
With TV Answer, viewers can instantly tap into an interactive
world of educational opportunities, services, consumer
products, and entertainment in a truly revolutionary way.

ON-SCREEN TITLE: STN'S FOOTBALL THIS

WEEK.

SCREEN) (WHITE MALE) SHOWN ON A TV SCREEN: Welcome to STN's halftime Sports Challenge, where you at home get a chance to play along as we test your knowledge of the game.

CHARLES KOFFEE (AS REFLECTED AT BOTTOM OF TV SCREEN: How, it's your turn to be the referee. Let's take a look at a controversial

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play between the Maryland Terrapins and the West Virginia Mountaineers earlier in the season.

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Bow, the question is is the ball dead because the quarterback fumbled or is it an interception? Use your two-way remote to answer and you have about five (5) seconds.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):

TV Answer brings a whole new dimension to educational

programming.

BLACK MALE ON TV SCREEN: And we're going to need help from you contestants at home, too, so play along with us. And the next question is what country has made the greatest strides in preserving the earth's rain forests? Is it Brazil, Columbia, or Costa Rica? That was a good choice because Costa Rica is the correct answer.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):

[One (1) or two (2) words indiscernible] questions give

communities and citizens a real opportunity to speak out and

get involved with important issues.

WHITE MALE: Would you be willing to pay ten (10%) percent more on your electricity bill to get a waste to energy plant in your community?

With TV Answer, the electronic town hall becomes a reality.

WHITE MALE: Select yes, select no, or

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):

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undecided to reflect your opinion. You have ten (10) seconds to respond. While America answers, we'll ask our studio guests for their expert opinions.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):

Consumers experience the secure convenience of home banking and instant bill paying. As a marketing tool, the opportunities are unlimited. TV Answer provides consumers with unmatched convenience and advertisers with a powerful new direct response medium and an important new port of entry into millions of America's TV households.

VOICE ON TV COMMERCIAL: Coming to you hot and fresh from Domino's Pizza, Domino's Pepperoni Pizza Feast with extra pepperoni and cheese.

FRANK MEEKS, SECOND LARGEST DOMINO'S

FRANCHISE OWNER WITH 45 STORES (AS REFLECTED AT BOTTOM OF TV

SCREEN): We're so excited at Domino's Pizza about being par

of a new team of companies across America, who are part of T

Answer's new electronic marketplace. Our vision for Domino'

Pizza is that all of our customers across America can order

Domino's Pizza simply by punching in a couple of numbers on

their TV Set, punch in their payment plan of choice, and in

thirty (30) minutes or less, Domino's Pizza is at their

door. TV Answer is the way of the future and Domino's Pizza

is proud to be part of this team.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):

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•

TV Answer is a whole new way of generating valuable sales leads and new customers.

DIRECT INTERNATIONAL (AS REFLECTED AT BOTTOM OF TV SCREEN):

I've always wanted to run a direct response spot on the Super

Bowl but right now, there's no technology that would allow us

to take the kind of blast volume that would come from that

response. With something like TV Answer or interactive

television, the technology would be there to be — to be able

to take the response and that's very, very exciting.

PAUL ANTHONY: TV Answer can make it happen - thousands of instant responses to quality programming and advertising. The TV Answer formula for your financial success is clear: Interactive opportunity equals transactions equals more revenue for you and TV Answer. TV answer has it all. Remember, TV Answer pioneered IVDS technology and championed its acceptance by the FCC.

ERVIN DUGAN, FCC COMMISSIONER (AS NOTED AT BOTTOM OF TV SCREEN): It is very exciting to — to be on the threshold of the — the age of interactivity and I think all of you are to be praised and I think the folks at TV Answer are to be praised.

PAUL ANTHONY: An efficient and strategically deployed local cell site network is key to your success.

PATRICIA E. CRUM Stenographic Reporter 311 Cheyenne Drive Frederick, Maryland 21701 (301)694-0717





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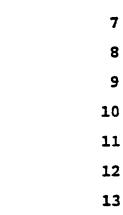
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| MALE VOICE | (SOUNDS LIKE PAUL ANTHONY): |
|--------------------------------|------------------------------|
| Our geodemographic cell deploy | ment will provide you the |
| perfect balance between effici | ency and capacity, providing |
| ideal coverage on Day One. | |

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PAUL ANTHONY: How would you, the local affiliate, develop your business?

We will share our knowledge and experience about operating and marketing an IVDS business through training, joint marketing efforts, and a professional affiliate relations staff.

WHITE FEMALE TALKING ON TELEPHONE: Tom, how are you doing? Uh-huh. I've got your figures. I think you're going to be very pleased.

PAUL ANTHONY: We will channel our service providers' success strategies and resources to your local market. Our goals are the same. We will reach our goals together...

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):
Because, together, remember, we have the four (4) key
elements for IVDS success: Home unit penetration; national
and local transaction revenue; strategic cell site
deployment; training and support for local affiliates.

PAUL ANTHONY: Soon, you may win an IVDS license. TV Answer can provide everything you need to build

PATRICIA E. CRIM Stenographic Reporter 311 Cheyenne Drive Frederick, Maryland 21701 (301)694-0717

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your license into a successful IVDS business:...

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):
Financial assistance; technology; a nationwide network;
alliances with industry giants Hewlett Packard and Hughes
Satellite Systems; our growing list of revenue generating
service providers. You will forever change the way Americans
entertain, educate, and buy.

PAUL ANTHONY: I encourage you to visit our network headquarters to discuss how we can help shape this exciting new industry. Together, we will transform television from a passive, one-way medium into a dynamic two-way interactive window on the world.

MALE VOICE (SOUNDS LIKE PAUL ANTHONY):
America's electronic marketplace - TV Answer.

PATRICIA E. CRUM Stenographic Reporter 311 Cheyenne Drive Frederick, Maryland 21701 (301)694-0717

TV ANSWER'

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CERTIFICATE OF STENOGRAPHIC REPORTER

I, PATRICIA E. CRUM, do hereby certify that the preceding transcript of a portion of a videotape, containing a TV Answer promotion, was reduced to typewritten form by me from videotape presented to me by LAUREN A. COLBY, ESQ., and the transcript is a true, accurate and complete record of the statements made and on-screen titles as contained on said portion of videotape; that I did not personally videotape said promotion; that I am neither counsel for, related to, nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

Dated this 14th day of June, 1995.

Patricia B. Crum

Stenographic Reporter/

Transcriber

PATRICIA E. CRIM Stenographic Reporter 311 Cheyenne Drive Frederick, Maryland 21701 (301)694-0717

EXHIBIT B

FINAL, 3 JUNE 94 (4:30 P.M.)

IVDS: Description of the Product

GOOD AFTERNOON. MANY OF YOU ARE FROM OUT OF TOWN, SO WELCOME TO WASHINGTON, D.C.! ALL OF YOU, ON THE OTHER HAND, ARE HERE TO OBTAIN MORE INFORMATION ABOUT WHAT HAS BEEN DESCRIBED BY MANY AS ONE OF THE MOST EXCITING NEW RADIO Services AND RESULTANT BUSINESS OPPORTUNITIES TO EVOLVE IN THE TELECOMMUNICATIONS ARENA. THIS [TECHNOLOGY] HAS THE POTENTIAL TO CHANGE THE WAY WE SHOP, THE WAY WE LEARN, THE WAY WE BANK, THE WAY WE RECEIVE HEALTH-CARE, ULTIMATELY, THE WAY WE LIVE. THE rADIO SERVICE OF WHICH I SPEAK IS INTERACTIVE VIDEO AND DATA SERVICE. HAVING SAID ALL THAT, WELCOME TO IVDS!

TODAY, I WILL ATTEMPT TO ENHANCE YOUR UNDERSTANDING OF IVDS, BY
EXPLAINING WHAT IT IS FROM A TECHNICAL AND OPERATIONAL
PERSPECTIVE. I WILL TALK ABOUT SOME OF THE EXPECTED APPLICATIONS
OR USES FOR IVDS. I SAY EXPECTED USES BECAUSE AS I STATED
EARLIER, IVDS IS STILL EVOLVING AS A RADIO SERVICE. A TOTAL OF
18 LICENSES HAVE BEEN GRANTED IN THE IVDS TO DATE. A GRAND TOTAL
OF ONE COMPANY, E-ON, HAS RECEIVED TYPE-ACCEPTANCE FOR EQUIPMENT
TO OPERATE IN THIS SERVICE. SO AS YOU CAN SEE, IVDS IS TRULY, IN
AN "EMERYONIC" STAGE. EVEN AS I ADDRESS YOU HERE TODAY, THE
FEDERAL COMMUNICATIONS COMMISSION IS CONSIDERING A PETITION TO

ALLOW MOBILE OPERATION, THAT IS, TRANSMISSIONS BETWEEN SERVICE PROVIDERS AND SUBSCRIBERS AT ITINERANT LOCATIONS. THIS IS SIGNIFICANT BECAUSE THE CURRENT IVDS RULES, WHICH, BY THE WAY, ARE CONTAINED IN SUBPART F OF PART 95 OF TITLE 47 OF THE U.S. CODE OF FEDERAL REGULATIONS, OR (C.F.R.), PROVIDE ONLY FOR INTERACTION BETWEEN SERVICE PROVIDERS (LICENSEES) AND SUBSCRIBERS at fixed locations. COPIES OF THE CFR ARE AVAILABLE FOR PURCHASE FROM THE GOVERNMENT PRINTING OFFICE...

SINCE IVDS IS SO NEW, A BRIEF REVIEW MIGHT be helpful AT THIS POINT. JUST WHAT IS IVDS? IVDS WAS DESIGNED TO SERVE AS ONE OF THE MANY ACCESS RAMPS TO THE NATION'S INFORMATION SUPERHIGHWAY.

IT WILL PERMIT SHORT DISTANCE TWO-WAY TRANSMISSIONS OF ELECTRONIC DATA. A STRICT DESCRIPTION ACCORDING TO RULE 95.903 READS AS FOLLOWS: AN IVDS SYSTEM IS A POINT-TO-MULTIPOINT, MULTIPOINT-TO-POINT, SHORT DISTANCE COMMUNICATIONS SERVICE FOR ITS LICENSEE TO PROVIDE INFORMATION, PRODUCTS, OR SERVICES TO, AND ALLOW INTERACTIVE RESPONSES FROM, SUBSCRIBERS AT FIXED LOCATIONS IN THE SERVICE AREA.

WHAT DOES THIS MEAN? THIS DEFINITION IS INTENDED TO PROVIDE
LICENSEES A GREAT DEAL OF FLEXIBILITY IN THE SERVICE THEY CAN
OFFER. AS I INDICATED DURING MY OPENING REMARKS, THE POTENTIAL
OPPORTUNITIES IN IVDS ARE NUMEROUS. WE EXPECT SERVICE OFFERINGS
TO INCLUDE, FOR INSTANCE, HOME SHOPPING. THE SERVICE MAY ALSO BE
USED FOR POLLING. THERE ARE ALSO COMMERCIAL APPLICATIONS SUCH AS
HOME BANKING AND THE DOWNLOADING OF DATA. SERVICE OFFERINGS ARE



EXPECTED TO INCLIDE OPPORTUNITIES FOR TELEVISION-VIEWER
INTERACTION, IN REAL TIME, TO PAY-PER-VIEW AND EDUCATIONAL
PROGRAMMING. THIS SERVICE IS EXCELLENT FOR IN-CLASSROOM TRAINING
FOR HOMEBOUND STUDENTS. IMAGINE TEACHERS INSTRUCTING 20
CLASSROOMS SIMULTANEOUSLY, AT AN EQUAL NUMBER OF LEARNING
INSTITUTIONS. IN THE AREA OF MEDICINE, FOR EXAMPLE, A PHYSICIAN
MAY ENGAGE IN A "DIALOGUE OF SORTS" WHILE DEMONSTRATING A NEW
MEDICAL PROCEDURE TO FELLOW PHYSICIANS OR MEDICAL STUDENTS
LOCATED ACROSS THE COUNTRY. KEEP IN MIND THAT AN IVDS SYSTEM MAY
INCORPORATE NUMEROUS ELECTRONIC MEDIA TO PROVIDE THE DESIRED
SERVICE TO ITS SUBSCRIBERS. IVDS SYSTEMS CAN BE COORDINATED WITH
TELEVISION BROADCAST STATIONS, CABLE TELEVISION STATIONS AND
WIRELESS CABLE AS WELL AS DIRECT BROADCAST SATELLITE (DBS). /

NOW THAT YOU HAVE A GENERAL IDEA OF WHAT IVDS IS, LET'S LOOK
BRIEFLY AT THE RULES THAT GOVERN OPERATIONS IN THE IVDS. WHEN
THE COMMISSION ESTABLISHED IVDS BACK IN 1992, IT ALLOCATED ONE
MEGAHERIZ OF SPECTRUM, THE 218-219 MHz BAND, TO IVDS. FURTHER,
IT DIVIDED THE COUNTRY INTO 734 SERVICE AREAS WITH TWO LICENSES,
LICENSE "A" AND LICENSE "B", AVAILABLE ON AN EXCLUSIVE BASIS IN
EACH SERVICE AREA, EACH ONE FOR 500 KILCHERIZ. THESE AREAS, BY
THE WAY, ARE THE SAME AREAS USED IN THE CELLULAR RADIO SERVICE.
THE COMMISSION ALSO DEFINED TWO TYPES OF STATIONS: A CELL
TRANSMITTER STATION OR CIS AND A RESPONSE TRANSMITTER UNIT OR
RIU. A CTS IS BASICALLY A BASE STATION AND THE RIU IS THE
TRANSMITTER LOCATED AT THE SUBSCRIBER'S HOME OR OFFICE. ON THE
SUBJECT OF IVDS EQUIPMENT IN THE SUBSCRIBER'S HOME OR BUSINESS,



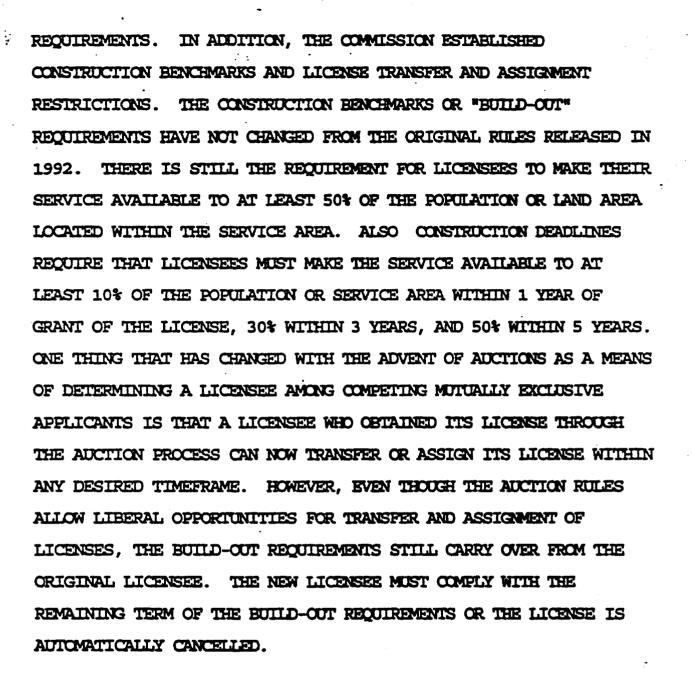
WHAT WE'RE TALKING ABOUT MAY BE EQUIPMENT THAT RESEMBLES A VCR-TYPE BOX ON THE TELEVISION THAT WILL BE USED IN CONJUNCTION WITH A HAND-HELD REMOTE CONTROL DEVICE.

AVAILABLE SERVICES MAY DIFFER IN DIFFERENT AREAS DEPENDING ON THE OFFERINGS OF THE LICENSEES, WHICH UNDOUBTEDLY WILL DEPEND ON CUSTOMER DEMAND. THOSE SERVICES, HOWEVER, COULD, FOR INSTANCE, COMBINE THE FUNCTIONS OF COMPUTERS, TELEVISIONS AND COMPACT DISK PLAYERS. THIS IS A TERRITORY YET TO BE EXPLORED BY EACH POTENTIAL IVDS LICENSEE. EQUIPMENT DESIGN AND CAPABILITY WILL EVOLVE AS IVDS EXPANDS TO MEET THE DEMANDS OF THE MARKET.

THE COMMISSION ALSO ESTABLISHED CERTAIN OTHER RULES TO GOVERN IVDS, SUCH AS ELIGIBILITY, PERMISSIBLE COMMUNICATIONS, CONSTRUCTION OR "BUILD-OUT" REQUIREMENTS, AND POWER/ANTENNA RESTRICTIONS. I WILL NOT BORE YOU WITH A DETAILED DISCUSSION THOSE RULES. AS I SAID BEFORE, THEY ARE COVERED IN PART 95. I DO, HOWEVER, WANT TO MAKE SOME GENERAL OBSERVATIONS. IN REGARD TO ELIGIBILITY, IN GENERAL, EVERYBODY IS BLIGIBLE. ONLY A REPRESENTATIVE OF A FOREIGN GOVERNMENT IS NOT ELIGIBLE.

ADDITIONALLY, YOU CAN NOT BE THE LICENSEE FOR BOTH LICENSES IN THE SAME SERVICE AREA. AS FOR TECHNICAL RULES, WE DID NOT SPECIFY THE TYPE OF SIGNAL OR EMISSION, SUCH AS ANALOG OR DIGITAL. WE ONLY SPECIFIED OUT-OF-BAND EMISSION LIMITS. ALSO, WE DID NOT SAY HOW TO DIVIDE UP THE 500 KILCHERIZ CHANNEL. LICENSEES ARE FREE TO ESTABLISH THEIR OWN CHANNELIZATION WITHIN THEIR 500 KILCHERIZ SEGMENT. WE DID ESTABLISH CERTAIN POWER AND ANTENNA HEIGHT





ANOTHER ISSUE OF MAJOR CONCERN ASSOCIATED WITH TRANSFER AND
ASSIGNING LICENSES COMES INTO PLAY WHEN LICENSES WERE OBTAINED BY
APPLICANTS UNDER THE DESIGNATED ENTITY PREFERENCE CATEGORY.
THERE WILL BE FURTHER DISCUSSION OF THE RULES CONCERNING
DESIGNATED ENTITIES BY MS. SARAH SELDMAN LATER THIS AFTERNOON.



NOW THAT YOU ARE ALL EXPERTS ON THE IVDS RULES, LET'S LOOK AT WHERE WE ARE TODAY. TO DATE, THE COMMISSION HAS GRANTED 18 LICENSES FOR 9 SERVICE AREAS. THESE LICENSES WERE WON IN A LOTTERY HELD SEPTEMBER 15, 1993. THEREFORE, THERE ARE 725 SERVICE AREAS LEFT TO BE LICENSED. AS YOU KNOW, EARLIER THIS YEAR, THE COMMISSION STATED THAT AUCTIONING WOULD BE USED AS A MEANS OF AWARDING LICENSES IN THE IVDS SERVICE WHENEVER MUTUALLY EXCLUSIVE APPLICATIONS ARE RECEIVED. THAT IS TO SAY, WHENEVER TWO OR MORE APPLICATIONS ARE FILED WHICH ARE COMPETING FOR THE SAME FACILITY, EACH OF WHICH MEETS THE APPLICATION STANDARDS. FOR EXAMPLE, THE COMMISSION RECEIVES FIVE (5) SUCH APPLICATIONS FOR FREQUENCY "A" IN DETROIT. GIVEN THIS SCENARIO, DETROIT WOULD BE INCLUDED IN AN IVDS AUCTION.

IN APRIL, THE FCC ADOPTED SPECIFIC PROCEDURES FOR AUCTIONING IVDS LICENSES. A COPY OF THE ITEM, THE 4TH REPORT AND ORDER, IS IN YOUR BIDDERS INFORMATION PACKAGE. AGAIN, I DO NOT WANT TO BORE YOU BY GOING THROUGH THE NEW RULES LINE BY LINE. HOWEVER, I DO WANT TO TOUCH ON CERTAIN IMPORTANT POINTS. FIRST, THE COMMISSION STATED THAT IT WOULD YOU USE TWO BIDDING METHODS. OPEN OUTCRY OR ORAL, AND SEALED BIDDING. RACHAEL KAZAN WILL DISCUSS LATER, HOW THE CRAL BIDDING PROCESS WORKS. IN GENERAL, ORAL BIDDING WILL BE USED FOR SERVICE AREAS 5, AND 11 THROUGH 306, AND SEALED BIDDING WILL BE USED FOR SERVICE AREAS 307 THROUGH 734. TO PARTICIPATE IN THE IVDS AUCTION, YOU MUST COMPLETE A FORM 175, AND IF NECESSARY, 175-S, AND SEND IT IN PRIOR TO JUNE 27, 1994. I WILL TALK MORE ABOUT THE 175 A LITTLE LATER.



BUT FIRST I'D LIKE TO DISCUSS, BRIKFLY, THE COMMISSION'S DECISION TO SWITCH FROM LOTTERY TO AUCTION. The Commission has used lotteries in many contexts over the years. As Congress debated creating new auctioning authority for the Commission in the summer of 1993, Congress was well aware that the Commission had already accepted numerous applications for the first nine IVDS markets. The applicants who submitted these initial applications by the applications deadline anticipated an IVDS lottery. Congress recognized this, and permitted an exception to the new auctioning requirements for these markets and the TVDS lottery for these markets was held September 15, 1993. With nine markets granted, 725 remain. OPEN OUTCRY BIDDING WAS DETERMINED TO BE THE BEST AUCTION METHOD FOR THE NEXT 297 MARKETS. SPEAKING OF THE 18 LOTTERY WINNERS, MANY INDIVIDUALS HAVE CALLED THE FCC WITH OUESTIONS AND CONCERNS ABOUT THE LICENSES OBTAINED UNDER THE LOTTERY SCHEME. THOSE LICENSES ARE VALID AND WILL REMAIN UNAFFECTED BY THESE "SUBSEQUENT" AUCTIONS. THIS BRINGS US TO AUCTIONS.

AT THIS TIME I'D LIKE TO DISCUSS THE FCC APPLICATION FORM 175.

THERE IS A COPY OF THE FORM 175 IN THE BIDDERS INFORMATION

PACKAGE AND THE AUCTION REGISTRATION PACKAGE. PROSPECTIVE

BIDDERS ARE REQUIRED TO FILE APPLICATIONS ON FCC FORM 175 (AND

175-S, IF APPROPRIATE), THE APPLICATIONS TO PARTICIPATE IN AN FCC

AUCTION. APPLICANTS WILL BE ALLOWED TO CORRECT MINOR DEFECTS IN

THEIR APPLICATIONS, SUCH AS CHANGE IN ADDRESS, PRIOR TO THE

AUCTION. APPLICANTS WILL NOT BE PERMITTED, HOWEVER, TO MAKE



MAJOR MODIFICATIONS TO THEIR APPLICATIONS SUCH AS CHANGES IN OWNERSHIP. APPLICATIONS THAT ARE NOT SIGNED OR THAT FAIL TO MAKE THE REQUIRED CERTIFICATIONS WILL BE DISMISSED AND CANNOT BE RESUBMITTED. THE COMMISSION WILL ISSUE A PUBLIC NOTICE OR PUBLIC NOTICES LISTING ALL APPLICATIONS WHICH ARE ACCEPTED FOR FILING, REJECTED, AND THOSE WHICH HAVE MINOR DEFECTS THAT MAY BE CORRECTED. AN APPLICATION FORM 175 MAY BE SUBMITTED ANYTIME AFTER THE RELEASE OF THE PUBLIC NOTICE ANNOUNCING THE AUCTION. BUT MUST BE RECEIVED BY TRADEWINDS, INTERNATIONAL, INC. AT THE ADDRESS LISTED ON PAGE 3 OF SECTION 3 ENTITLED, "PROCEDURES. TERMS AND CONDITIONS" OF YOUR BIDDERS INFORMATION PACKAGE OR SEMINAR REGISTRATION PACKAGE. SINCE EVERY BIDDER MUST HAVE THIS PACKAGE, I DON'T FEEL IT'S NECESSARY TO SPELL OUT THE LENGTHY ADDRESS FOR MAILING APPLICATIONS. APPLICATIONS WILL BE ACCEPTED UNTIL 5:30 P.M. EDT, MONDAY, JUNE 27, 1994. THERE ARE SOME SPECIFIC INFORMATION ITEMS IN YOUR BIDDERS INFORMATION PACKAGE TO WHICH YOU SHOULD PAY PARTICULAR ATTENTION. THE FIRST ITEM IS FOUND ON PAGE 2 OF SECTION 3 ENTITLED "PROCEDURES, TERMS AND CONDITIONS" I'LL PAUSE A MOMENT WHILE YOU LOCATE THIS IN YOUR PACKAGE.

(REFER TO B.I.P.)

TO WRAP UP, I'D JUST LIKE TO SAY THAT IN 1992, WE NOTED THAT WE WANTED THIS TO BE A FLEXIBLE SERVICE. THIS HAS NOT CHANGED. WE HAVE DELIBERATELY PLACED FEW RESTRICTIONS ON USES FOR THE IVDS. THOSE USES I MENTIONED EARLIER ARE MERELY SOME OF THE USES THAT HAVE BEEN IDENTIFIED AS VIABLE OPTIONS BY POTENTIAL SERVICE 0.0284

PROVIDERS IN THIS SERVICE. WE ANTICIPATE THAT SERVICE PROVIDERS,
PERHAPS WORKING WITH INTERESTED SUBSCRIBERS, WILL HELP CREATE NEW
MARKETS INTO WHICH IVDS WILL BECOME INTEGRATED. IN ADDITION TO
THE NEW MARKETS THAT MAY RESULT FROM THIS TECHNOLOGY, WE ARE ALSO
EXCITED ABOUT THE POTENTIAL FOR NEW ENTRANTS INTO THE FIELD OF
TELECOMMUNICATIONS. IVDS OFFERS NEW AND WIDE RANGING CAREER
OPPORTUNITIES FOR ANYONE INTERESTED IN THIS YET TO BE EXPLORED
ARENA. THAT'S THE BEAUTY OF IVDS. ITS FULL POTENTIAL HAS YET TO
BE REALIZED. THE MARKETS INTO WHICH IT MAY BE INCORPORATED ARE
LIMITED ONLY TO THOSE PROPOSALS THAT MEET THE TECHNICAL
SPECIFICATIONS CONTAINED IN THE RULES AND FOR WHICH THE
COMMISSION WILL BE PETITIONED. HAVING SAID ALL THIS, I'D LIKE TO
WISH EACH OF YOU ALL THE BEST IN THE UPCOMING AUCTION THIS JULY!

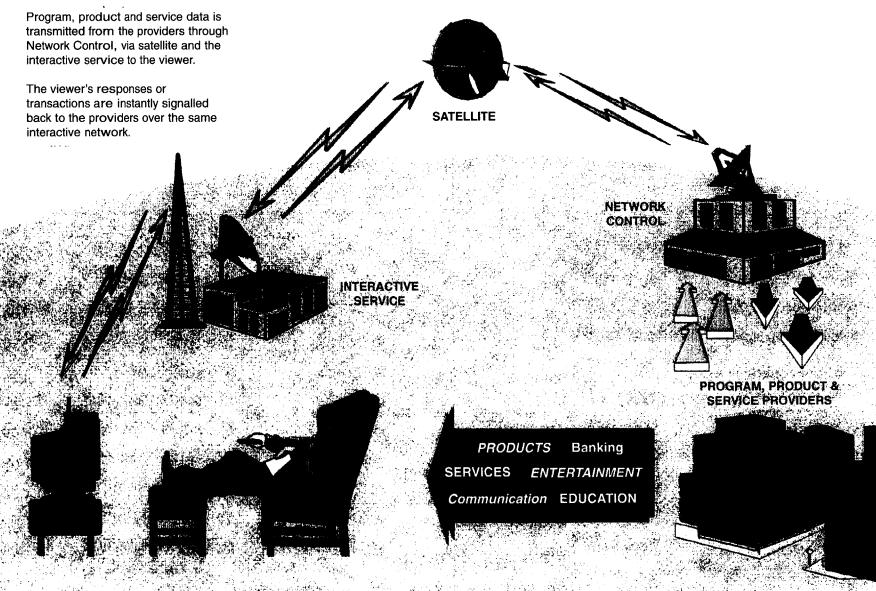
EXHIBIT C

THIS COULD BE ONE OF THE MOST EXTRAORDINARY LICENSING OPPORTUNITIES IN FCC HISTORY ...



YOUR KEY TO PARTICIPATION IS A QUALIFIED MEMBERSHIP

HOW IVDS WORKS



A Technology That Will Change Television... FOREVER!